

WHAT IS CLAIMED IS:

- 1 1. A hierarchy for representing a plurality of items stored in a database, said
2 hierarchy comprising:
3 a plurality of nodes each representative of a subset of the items; and wherein:
4 each of the nodes is a child of one other node, except for a root node, which is
5 a child of no other node and is an ancestor of all of the nodes;
6 a first portion of the nodes each specify one or more constraints defining a
7 scope of the subset of items represented by each of the first portion
8 relative to their parent node; and
9 a second portion of the nodes specify no constraints, each of the second
10 portion establishing a logical grouping defining a scope of the subset
11 of the items represented by each of the second portion.
- 12 2. The hierarchy of claim 1 wherein the nodes of the second portion have one or
13 more child nodes, each representative of some portion of the subset items that are logically
14 grouped.
- 15 3. The hierarchy of claim 1 wherein the scope of the items represented by each of
16 the nodes is constrained by an aggregation of any constraints specified by the node and all of
17 its ancestors.
- 18 4. The hierarchy of claim 1 wherein the constraints comprise one or more
19 permissible values of one or more attributes of the items.
- 20 5. The hierarchy of claim 1 wherein the attributes and attribute values are stored
21 with the items in the database.
- 22 6. The hierarchy of claim 3 wherein the aggregation of any constraints comprises
23 a logical ANDING of all of the constraints aggregated.
- 24 7. The hierarchy of claim 6 wherein the aggregation of constraints comprises a
25 search rule that includes all of the items that meet the aggregation of constraints.

8. The hierarchy of claim 1 wherein each of the nodes specifies a unique label and a list of the unique labels of its children.

9. The hierarchy of claim 1 wherein one or more of the nodes specifies a set of display data.

10. The hierarchy of claim 7 wherein:
a third portion of the nodes are leaf nodes, each of the leaf nodes having no children;
and
said hierarchy operable to determine the aggregation of constraints and to generate the search rule for each leaf node in response to activation of the leaf node.

11. A method of representing a plurality of items in a database hierarchically, each of the items associated with one or more attributes, each of the attributes having one or more values, said method comprising:
apportioning the plurality of items into subsets;
representing each of the subsets with a node in a hierarchy, each of the nodes being a child of one other node, except for a root node, which is a child of no other of the nodes and is an ancestor of all of the nodes in the hierarchy;
specifying one or more constraints for each of a first portion of the nodes, the constraints defining a scope of the subset of items represented by each of the first portion relative to their parent node; and
establishing a logical grouping of the items for a second portion of the nodes, the logical grouping defining a scope of the subset of items represented by each of the second portion of nodes, no constraints being specified for any of the second portion of the nodes.

12. The method of claim 11 wherein the nodes of the second portion have one or more child nodes, each representative of some portion of the subset of the items that are logically grouped.

1 13. The method of claim 11 wherein the scope of the items represented by each of
2 the nodes is constrained by an aggregation of any constraints specified by the node and all of
3 its ancestors.

1 14. The method of claim 11 wherein the constraints comprise one or more
2 permissible values of one or more of the attributes of the items.

1 15. The method of claim 11 wherein the attributes and attribute values are stored
2 in conjunction with the items in the database.

1 16. The method of claim 13 wherein the aggregation of any constraints comprises
2 a logical ANDING of all of the constraints aggregated.

1 17. The method of claim 16 wherein the aggregation of constraints comprises a
2 search rule that includes all of the items that meet the aggregation of constraints.

1 18. The method of claim 11 wherein each of the nodes specifies a unique label and
2 a list of the unique labels of its children.

1 19. The method of claim 11 wherein one or more of the nodes specifies a set of
2 display data.

1 20. The method of claim 17 wherein:
2 a third portion of the nodes are leaf nodes, each of the leaf nodes having no children;
3 and
4 said hierarchy operable to determine the aggregation of constraints and to generate the
5 search rule for each leaf node in response to activation of the leaf node.

1 21. A method of browsing items stored in a database using a hierarchy, each of the
2 items associated with one or more attributes, each of the attributes having one or more values,
3 said method comprising:
4 apportioning the plurality of items into subsets;

5 representing each of the subsets with a node in a hierarchy, each of the nodes being a
6 child of one other node, except for a root node, which is a child of no other of
7 the nodes and is an ancestor of all of the nodes in the hierarchy;
8 specifying one or more constraints for each of a first portion of the nodes, the
9 constraints defining a scope of the subset of items represented by each of the
10 first portion; and
11 establishing a logical grouping of the items for a second portion of the nodes, the
12 logical grouping defining a scope of the subset of items represented by each of
13 the second portion of nodes, no constraints being specified for any of the
14 second portion of the nodes;
15 displaying said hierarchy on a computer terminal, wherein each of said nodes are
16 operative to be activated by selecting the node;
17 aggregating the constraints specified by a leaf node and its ancestors in response to
18 selection of one of the leaf nodes;
19 forming a search rule from the aggregation that includes all items that meet the
20 constraints;
21 initiating a search of the database in accordance with the search rule; and
22 returning to the terminal a list of the items that meet the constraints.

23. The method of claim 21 wherein the terminal is connected to the database over
a network.

24. The method of claim 22 wherein the network is the Internet.